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WHITE ASH

Photo by Courtesy U. S. Forest Service.

ASH PLANTATION ON BOTTOM LAND

MARYLAND STATE BOARD OF FORESTRY
BALTIMORE, MARYLAND.

WHITE ASH.

(Fraxinus americana)

Under the term "ash," at least in the lumber market, are included several distinct species, such as the red, green, swamp and black ash, as well as the true white ash. The specific differences are not particularly pronounced, but there is a wide variation in the types of soil, and the condition of soil moisture in which the different species thrive. The true white ash can be considered as representative of the group, and the following description, with proper changes as to *site,* will serve for the ash group native in Maryland.

The white ash is one of the more valuable hardwoods of Maryland forests. Because of the value of the wood, its fairly rapid growth, its wide-spread distribution, its immunity from fungous and insect attack, and the ease with which it can be handled and reestablished, it is desirable for forest planting. It is especially valuable for filling in open spaces in the woodlot or for planting on lands subject to overflow.

Range.

This tree is found scattered throughout the Piedmont and mountain regions of Maryland, but becomes increasingly rare southward in the Coastal Plain. It is most common in the valleys and bottom lands of the Piedmont Plateau.

Characteristics.

As a forest tree, the white ash is tall, slender, usually clear of branches for a considerable distance above the ground, and bears a narrow crown. In the open the tree usually divides into a number of spreading branches, forming a round-topped crown, which often extends nearly to the ground. The white ash has opposite compound leaves with 5-9 plainly stalked leaflets, sharp-pointed at the top. The leaflets are dark green and smooth above,—lighter green beneath. The bark of the white ash varies in color from a light gray to a gray-brown. The rather narrow ridges are separated with marked regularity by deep dia-

mond-shaped fissures. The fruit of the ash is winged, 1½ inches long, resembling the blade of a canoe paddle in outline, with the seed at the throat end. These winged seeds are borne in dense clusters, and ripen late in the summer.

The tree is rather long lived reaching an age of 200 to 300 years. In its younger stages, especially, the white ash is quite shade enduring.

Soil And Moisture.

Rich, moist soils, such as well-drained slopes, bottom lands along rivers, and the deep soils of the valleys, are the preferred habitats of the white ash. It is usually found on soils that are capable of supporting agriculture crops if cleared. It will not thrive on poor, dry soils. Plantations do best on a sandy, loam soil, within a few feet of the permanent water table, and with a porous sub-soil.

Enemies.

Insects and disease do not, on the whole, seriously trouble the white ash. Occasionally a heartwood fungus enters the tree, which destroys the value of the wood. A few insects may feed on its foliage, but this also is infrequent.

As in the case of many other hardwoods of Maryland, by far, the greatest enemy of the ash is the forest fire. On young trees the thin bark affords little protection from even a light, surface fire. The occurrence of the tree in moist sites less subject to drying out, helps in keeping the fire damage to ash at a minimum.

Uses Of The Wood.

The wood of the white ash is heavy, strong, tough, stiff, hard and elastic. It is particularly in demand for bending purposes. It is only moderately durable when placed on or near the ground. Old, slow-growing trees do not have so strong a wood as the rapidly-growing second growth trees. The wood from young thrifty trees (as grown in plantations) is preferred for most uses. The wood is largely in demand for furniture, vehicles, interior woodwork, agricultural implements, tools and handles.

Suitability For Planting.

The white ash is a very desirable tree for planting because of the ease of handling, rapidity of growth, large size attained, its wide range throughout the State, its general immunity to insects and fungi, and because the wood of the second growth trees is more valuable than the wood of the trees in the original forests. The species may be planted in pure stands but it is more adapted to mixed stands. It is an excellent tree for replacement in a woodlot. In a mixture of white pine and red oak, the white ash increases the possibilities of success because of its resistance to insect and fungus attacks generally. It is best adapted for planting in the Piedmont section and in the moist fertile coves and valleys between the mountains in Western Maryland. Natural reproduction is scant and should not be relied upon. Nursery stock should be used.

Yields And Returns.

While there is no data available on planted stands in Maryland, it is believed that the growth and yield obtained elsewhere can be duplicated or bettered here. Results in other states are very favorable and indicate the success that plantations in Maryland will attain. The following table gives the average rate of growth of white ash on average kinds of hardwood soils.

AVERAGE RATE OF GROWTH OF WHITE ASH ON MOIST SANDY SOIL*

AGE Years	D. B. H. Inches	HEIGHT Feet
10	1.3	17
15	3.0	27
20	4.5	34
25	5.9	41
30	7.1	47
35	8.3	53
40	9.4	57
45	10.3	61
50	11.2	65
55	12.2	68
60	13.1	71
65	13.9	74

* From Bulletin No. 156. N. C. Geol. and Econ. Survey.

NOTE:—The State Board of Forestry maintains a forest nursery where trees suitable for forest planting are grown and distributed at cost to landowners of the State. Full particulars may be obtained upon application.